

AMENDMENT

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application. Claims 1-9 are withdrawn by the present amendment. Claim 10 is currently amended. Claims 15-19 are newly introduced by the present amendment. Accordingly, claims 10-19 remain for examination in the present application.

Listing of Claims:

1. (Withdrawn) A chimeric isoprenoid synthase polypeptide, comprising a first isoprenoid synthase polypeptide joined to a second, different isoprenoid synthase polypeptide.
2. (Withdrawn) The chimeric isoprenoid synthase polypeptide of claim 1, wherein said chimeric isoprenoid synthase polypeptide catalyzes the production of an isoprenoid reaction product that is not produced in the absence of said second, different isoprenoid synthase polypeptide.
3. (Withdrawn) The chimeric isoprenoid synthase polypeptide of claim 1, wherein said chimeric isoprenoid synthase polypeptide catalyzes the production of an isoprenoid reaction product that is produced in the absence of said second, different isoprenoid synthase polypeptide.
4. (Withdrawn) The chimeric isoprenoid synthase polypeptide of claim 1, wherein said chimeric isoprenoid synthase polypeptide catalyzes at least two different isoprenoid reaction products.
5. (Withdrawn) The chimeric isoprenoid synthase polypeptide of claim 1, wherein said first isoprenoid synthase is from a plant isoprenoid synthase and said second, different isoprenoid synthase is from a plant isoprenoid synthase.

6. (Withdrawn) The chimeric isoprenoid synthase polypeptide of claim 5, wherein said chimeric isoprenoid synthase polypeptide is chosen from the group consisting of (a) the tobacco-*Hyoscyamus* CH4 chimeric isoprenoid synthase; (b) the tobacco-*Hyoscyamus* CH10 chimeric isoprenoid synthase; (c) the tobacco-*Hyoscyamus* CH11 chimeric isoprenoid synthase; (d) the tobacco-*Hyoscyamus* CH12 chimeric isoprenoid synthase; (e) the tobacco-*Hyoscyamus* CH13 chimeric isoprenoid synthase; and (f) the tobacco-*Hyoscyamus* CH14 chimeric isoprenoid synthase.

7. (Withdrawn) The chimeric isoprenoid synthase polypeptide of claim 1, wherein said chimeric isoprenoid synthase polypeptide catalyzes the production of an antifungal agent.

8. (Withdrawn) The chimeric isoprenoid synthase polypeptide of claim 1, wherein said chimeric isoprenoid synthase polypeptide catalyzes the production of an antibacterial agent.

9. (Withdrawn) The chimeric isoprenoid synthase polypeptide of claim 1, wherein said chimeric isoprenoid synthase polypeptide catalyzes the production of an antitumor agent.

10. (Currently amended) DNA encoding a chimeric isoprenoid synthase polypeptide of claim 1, wherein said chimeric isoprenoid synthase polypeptide comprises a first isoprenoid synthase polypeptide joined to a second different isoprenoid synthase polypeptide.

11. (Original) A vector comprising the DNA of claim 10.

12. (Original) A cell comprising the DNA of claim 10.

13. (Original) The cell of claim 12, wherein said cell is *E. coli*.

14. (Original) The cell of claim 12, wherein said cell is a plant cell.
15. (New) A transgenic plant comprising the DNA of claim 10.
16. (New) A vector comprising a chimeric synthase gene and a dominant selectable marker.
17. (New) The vector of claim 16 further comprising additional elements selected from the group consisting of a promoter regulatory region, a transcription initiation start site, a ribosome binding site, an RNA processing signal, a transcription termination site, and a polyadenylation agent.
18. (New) The vector of claim 11 comprising a transcription initiation regulatory region.
19. (New) The vector of claim 11 comprising a transcription termination regulatory region.